

STOCKPILE REPORT **to the Congress**

JANUARY - JUNE 1966

**EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF EMERGENCY PLANNING
WASHINGTON, D. C. 20504**

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OFFICE OF THE DIRECTOR

October 27, 1966

Honorable Hubert H. Humphrey
President of the Senate

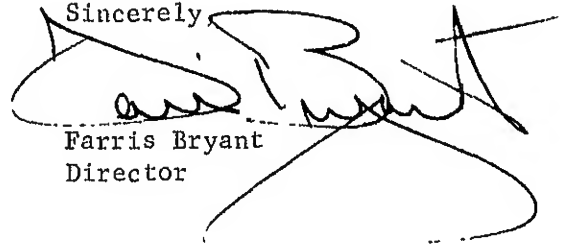
Honorable John W. McCormack
Speaker of the House of Representatives

Sirs:

Pursuant to Section 4 of the Strategic and Critical Materials Stock Piling Act, Public Law 520, 79th Congress, there is presented herewith the semiannual report to the Congress on the strategic and critical materials stockpiling program for the period January 1 to June 30, 1966.

A statistical supplement to this report was transmitted to you on September 19, 1966.

Sincerely

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Farris Bryant
Director

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SUMMARY

This report covers the principal activities in stockpile planning and management during January 1 through June 30, 1966, under the provisions of Public Law 520 (79th Congress), the Strategic and Critical Materials Stock Piling Act.

This period was marked by a continued high level of disposals of stockpiled materials with sales commitments reaching a record high of approximately \$582.2 million, exceeding disposals of \$446.0 million in the first half of the fiscal year, totaling an all time peak of more than \$1.0 billion for fiscal year 1966. (See Figures 1 and 2, pages 12 and 13.

Congress considered 25 disposal bills and enacted 18 authorizing the disposal of 21 stockpiled materials. As of June 30, 1966, the remaining 7 bills were still under consideration. (See page 10.)

During February 1966, the President authorized the release of 390,000 ounces of quinine sulphate from the National Stockpile for use in Vietnam to combat a strain of malaria. In March 1966, the President authorized a second release of 200,000 short tons of copper from the National Stockpile for purposes of the common defense.

A new rubber disposal program was established in June 1966, with a view of increasing the annual rate of sales.

The new building at the Government jewel bearing facility at Rolla, North Dakota, dedicated in May 1966, will provide increased capacity for producing jewel bearings in an emergency period.

Continued progress on developing nuclear war stockpile objectives was achieved and these studies should be completed by December 31, 1966.

INTRODUCTION

The Office of Emergency Planning develops the basic policies for the Government's stockpiling program as well as for other programs designed to achieve and maintain a mobilization base responsive to the threat of conventional or nuclear war. Stockpile objectives for conventional war have been in existence for many years. OEP has now developed methods for determining nuclear war objectives and these should be available within the next 6 months.

SUPPLY-REQUIREMENTS STUDIES— CONVENTIONAL WAR

During January-June 1966, OEP revised the conventional war stockpile objectives for two materials—aluminum oxide and molybdenum.

Aluminum Oxide.—On June 9, 1966, OEP established a revised stockpile objective for aluminum oxide at 300,000 short tons, of which 249,095 tons are crude fused material and 50,905 tons are processed grain. The increase of 140,000 short tons over the previous objectives resulted from the greatly increased use of this material in essential defense supporting industries with no change in the outlook for increased supplies.

Molybdenum.—In March 1966, OEP established a revised stockpile objective at 55,000,000 pounds of molybdenum in concentrates or equivalent. Within this objective, there are in-

cluded subobjectives of 10,000,000 pounds of molybdic oxide (equivalent concentrates of 10,-250,000 pounds), and 7,500,000 pounds of ferromolybdenum (equivalent concentrates of 8,-500,000 pounds). The decrease of 13,000,000 pounds from the previous objective was made possible by the substantial increases in actual and planned production in the United States and Canada.

Action was initiated to complete a review of stockpile objectives for all stockpiled materials in fiscal year 1967.

SUPPLY-REQUIREMENTS STUDIES— NUCLEAR WAR AND RECONSTRUCTION

The Supply-Requirements Study for Nuclear War and Reconstruction was completed during the reporting period. At the end of June, the responsible Federal departments and agencies were developing their estimates of postattack requirements for steel, copper, aluminum, and nickel alloys for the programs assigned to them. These estimates will furnish data that are needed to determine nuclear war stockpile objectives for some of the strategic and critical materials that are now stockpiled.

Following completion of these analyses, special supply-requirements studies will be made to develop and assemble the data needed to establish nuclear war stockpile objectives for the remaining stockpiled materials.

SUMMARY OF GOVERNMENT INVENTORIES OF STRATEGIC AND CRITICAL MATERIALS

As of June 30, 1966, the strategic materials held in all Government inventories amounted to \$7.5 billion at acquisition cost and \$7.1 billion at estimated market value. Of this total, \$4.9 billion at cost was in the National Stockpile, \$1.4 billion in the Supplemental Stockpile, \$1.2 billion in the Defense Production Act inventory, and \$18.0 million in the Commodity Credit Corporation inventory. Of the total materials in Government inventories, approximately \$4.3 billion at cost and \$3.7 billion at estimated market value are considered to be in excess of conventional war stockpile objectives. Over 81 percent of the market value of

the total excess is made up of 11 materials consisting of aluminum, metallurgical grade chromite, cobalt, industrial diamond stones, lead, metallurgical grade manganese, nickel, rubber, tin, tungsten, and zinc.

The following table is a summary of the total value of all materials carried in Government inventories, including those with quantities in excess of stockpile objectives for conventional war. It indicates the acquisition cost and estimated market value of materials with inventories meeting stockpile objectives, and materials with inventories excess to stockpile objectives.

SUMMARY OF GOVERNMENT INVENTORIES OF STRATEGIC AND CRITICAL MATERIALS

June 30, 1966

	Short Tons (In Millions)	Acquisition Cost	Market Value ¹
I. Total Inventories			
National Stockpile	24.8	\$4,913,498,800	\$5,041,012,200
Supplemental Stockpile	17.9	1,407,663,400	1,308,503,500
Defense Production Act	6.1	1,181,284,700	720,145,200
Commodity Credit Corporation1	18,048,200	17,139,400
 Total On Hand	 48.9	 7,520,495,100	 7,086,800,300
On Order1	42,259,300	43,484,400
 II. Inventories Within Objective			
Total on Hand	27.5	3,264,097,900	3,391,693,900
 III. Inventories Excess to Objectives			
Total on Hand	21.4	4,256,397,200	3,695,106,400

¹ Market values are computed from prices at which similar materials are being traded currently; or, in the absence of current trading, an estimate of the price which would prevail in commercial markets. The market values are generally unadjusted for normal premiums and discounts relating to contained qualities, so that market values are understated for materials such as metal grade bauxite to the extent that the inventories are of premium quality. The market values do not necessarily reflect the amount that would be realized at time of sale.

Source: General Services Administration.

STATUS OF STOCKPILE OBJECTIVES

The bar chart below shows the estimated market value of the objectives established and the extent to which materials on hand in all Government inventories (National Stockpile,

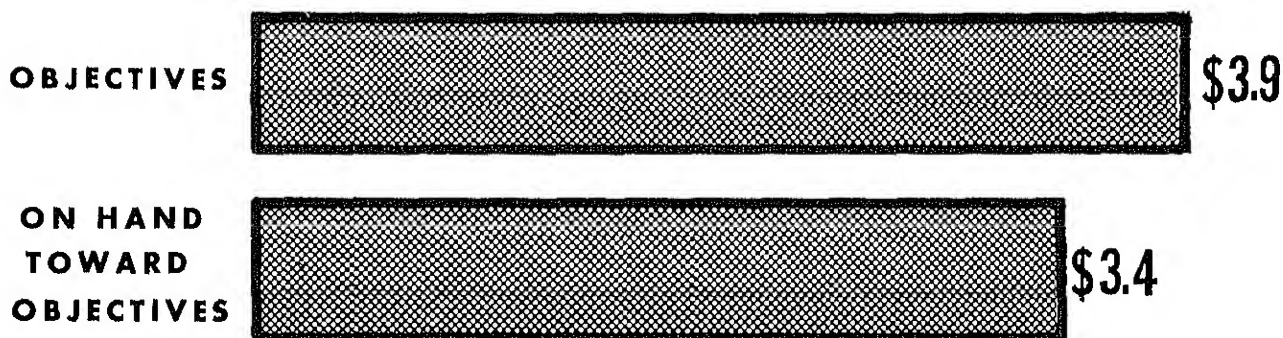
Supplemental Stockpile, DPA, and CCC) meet these objectives. The figures do not include the quantities of materials on hand in all Government inventories which are in excess of stockpile objectives (\$3.7 billion).

STATUS OF STOCKPILE OBJECTIVES

AS OF JUNE 30, 1966

(In Billions of Dollars)

MARKET VALUE



The materials on the List of Strategic and Critical Materials for Stockpiling are shown in the following table. As of June 30, 1966, total quantities of stockpile grade materials on hand in and on order for all Government-owned inventories are virtually sufficient to complete the

stockpile objectives for 65 of the 77 basic materials on the List of Strategic and Critical Materials for Stockpiling. Materials for which upgrading subobjectives as of June 30, 1966, had not been achieved are indicated by a footnote.

STATUS OF STOCKPILE OBJECTIVES, STRATEGIC AND CRITICAL MATERIALS ON HAND IN GOVERNMENT INVENTORIES (SPECIFICATION GRADE)

June 30, 1966

Materials	Inventory equals or exceeds objective	Materials	Inventory equals or exceeds objective
Aluminum	x	Manganese, chemical grade, type A ore...	x
Aluminum oxide, fused, crude	x	Manganese, chemical grade, type B ore....	x
Antimony	x	Manganese, metallurgical grade	(1) x
Asbestos, amosite	x	Mercury	x
Asbestos, chrysotile	-	Mica, muscovite block, stained and better..	x
Bauxite, metal grade, Jamaica type	x	Mica, muscovite film, first and second qualities	x
Bauxite, metal grade, Surinam type	x	Mica, muscovite splittings	x
Bauxite, refractory grade	x	Mica, phlogopite block	x
Beryl	x	Mica, phlogopite splittings	x
Bismuth	x	Molybdenum	(1) x
Cadmium	x	Nickel	x
Castor oil	x	Opium	(1) x
Celestite	x	Platinum group metals, iridium	-
Chromite, chemical grade	x	Platinum group metals, palladium	-
Chromite, metallurgical grade	x	Platinum group metals, platinum	x
Chromite, refractory grade	-	Pyrethrum	x
Cobalt	x	Quartz crystals	x
Columbium	(1) x	Quinidine	-
Copper	-	Quinine	-
Cordage fibers, abaca	x	Rare earths	x
Cordage fibers, sisal	x	Rubber, crude, natural	x
Corundum	-	Rutile	-
Diamond dies, small	(2)	Sapphire and ruby	-
Diamond, industrial: Crushing bort	x	Selenium	-
Diamond, industrial: Stones	x	Shellac	x
Feathers and Down, waterfowl	x	Silicon carbide, crude	x
Fluorspar, acid grade	x	Silver	(3)
Fluorspar, metallurgical grade	x	Sperm oil	x
Graphite, natural—Ceylon, amorphous lump	x	Talc, steatite, block and lump	x
Graphite, natural—Malagasy, crystalline..	x	Tantalum	(1) x
Graphite, natural—Other than Ceylon and Malagasy, crystalline	x	Thorium	x
Iodine	(2)	Tin	x
Jewel Bearings	-	Titanium	x
Kyanite-Mullite	x	Tungsten	(1) x
Lead	x	Vanadium	x
Magnesium	x	Vegetable tannin extract, chestnut	x
Manganese, battery grade, natural ore....	x	Vegetable tannin extract, quebracho	x
Manganese, battery grade, synthetic dioxide	x	Vegetable tannin extract, wattle	x
		Zinc	x

x Sufficient quantities on hand equal or exceed objective.

- Inventory deficit.

¹ Although total quantities of basic and upgraded forms are equal to the overall objective, the upgrading of the basic material to more readily usable forms for prompt emergency use has not been completed.

² Quantity on order will complete objective when deliveries are made.

³ Objective held within Treasury stocks.

OTHER MATERIALS IN GOVERNMENT INVENTORIES

In addition to inventories of specification grade materials, Government inventories contain nonspecification grades which are not credited to stockpile objectives, materials that have been removed from the stockpile list, and others for which there are no stockpile objectives. Quantities on hand of nonspecification grades of materials and materials with no stockpile objectives as of June 30, 1966, are indicated in the following tables.

Most of the nonspecification grade materials

in the National Stockpile were acquired by the transfer of Government-owned surpluses to the stockpile after World War II while others were accepted as contract termination inventories. Several were of specification grade when acquired but no longer qualify due to changes in industry practices and other technological advances. Disposal action for most of the items shown in the following tables has been authorized by the Congress or by OEP, while others are under disposal consideration. Inventory changes during fiscal year 1966 were due primarily to disposals, or to reclassification and other adjustments of the inventories.

NONSPECIFICATION GRADES OF MATERIALS IN ALL GOVERNMENT INVENTORIES NOT CREDITED TO STOCKPILE OBJECTIVES *

As of June 30, 1966

Material	Unit	Inventory			
		National	Supple- mental and CCC	DPA	Total Inventory
Aluminum	ST	7,332		2,034	9,366
Antimony	ST	159			159
Asbestos, chrysotile	ST	153	3,194	2,289	5,636
Beryl ore	ST			456	456
Celestite	SDT	29,018			29,018
Chromite, metallurgical grade.	SDT	780,497		960,925	1,741,422
Chromium ferro, high carbon.	ST	704			704
Chromium ferro, low carbon..	ST	20,324			20,324
Chromium ferro, silicon	ST	561	2,187		2,748
Chromite, refractory	SDT	228			228
Cobalt	LB	5,359,643		6,210,735	11,570,378
Columbium concentrates	LB	1,312,878	36,146	80,307	1,429,331
Columbium, ferro	LB	151,846			151,846
Cont. Cb.					
Corundum	ST	1,952			1,952
Diamond dies, small	PC	2,981			2,981
Fluorspar, acid grade	SDT	10,193	4,547	2,383	17,123
Graphite, other than Ceylon and Malagasy, crystalline..	ST	550			550
Jewel Bearings	PC	14,715,973			14,715,973
Kyanite-Mullite	SDT	1,639			1,639
Lead	ST	10			10
Manganese, battery grade, nat- ural ore	SDT		7,138		7,138

NONSPECIFICATION GRADES OF MATERIALS IN ALL GOVERNMENT
INVENTORIES NOT CREDITED TO STOCKPILE OBJECTIVES *—Continued

Material	Unit	Inventory			
		National	Supple- mental and CCC	DPA	Total Inventory
Manganese ore, metallurgical grade	SDT	476,165		1,030,047	1,506,212
Manganese, ferro, high carbon	ST		584		584
Mercury	FL	236			236
Mica, muscovite block St/better	LB	346,298	135,192	3,785,598	4,267,088
Mica, muscovite film, 1st & 2nd	LB	27,757			27,757
Mica, phlogopite block	LB	206,520			206,520
Nickel	ST	8			8
Opium, alkaloids & salts	AVLB	1,966			1,966
Platinum group metals, platinum	TROZ	271			271
Quartz crystals	LB	581,089			581,089
Rare earths	SDT	1,483			1,483
Silicon carbide, crude	ST		1		1
Talc, steatite block & lump . . .	ST	3			3
Tantalum, minerals	LB	1,459,249	2,200	65,146	1,526,595
Tin	LT	13			13
Tungsten ores & concentrates .	LB	43,342,190	1,152,811	22,840,422	67,335,423
Tungsten, ferro	LB	637,701			637,701
Tungsten metal powder, hydrogen reduced	LB	14,328			14,328
Tungsten metal powder, carbon reduced	LB	170,562			170,562
Tungsten carbide powder	LB	63,310			63,310

* Quantities may be shown on this table and also on the disposal table when sales commitments have been made, but the material has not moved out of inventory.

Source: General Services Administration.

MATERIALS IN ALL GOVERNMENT INVENTORIES FOR WHICH THERE
ARE NO STOCKPILE OBJECTIVES ¹

As of June 30, 1966

Material	Unit	Inventory			
		National	Supple- mental and CCC	DPA	Total Inventory
Antimonial lead	ST	11,563			11,563
Asbestos, crocidolite	ST	1,566	46,981		48,547
Brass	ST	1,484			1,484
Bronze	ST	502			502
Coconut oil	LB	221,126			221,126
Colemanite	LDT		67,636		67,636
Columbium oxide powder	LB	23,372			23,372
Cryolite	ST			9,321	9,321
Diamond tools	PC	64,178			64,178
Mica, muscovite block, St. B/ Lower	LB	4,320,402			4,320,402
Mica, muscovite film, 3rd quality	LB	500,029			500,029
Palm oil (operational oil) . . .	LB	11,950			11,950
Platinum group metals, rhodium	TROZ	618			618
Platinum group metals, ruthenium	TROZ		15,000		15,000
Rare earths residue	LB			795,096	795,096
Silk noils	LB	65,063			65,063
Silk waste	LB	25			25
Talc, steatite ground	ST	3,900			3,900
Thorium nitrate	LB		7,533,565		7,533,565
Thorium residue	LB			839,079	839,079
Zirconium ore, baddeleyite . .	SDT	16,514			16,514
Zirconium ore, zircon	SDT	1,721			1,721

¹ Quantities may be shown on this table and also on the disposal table when sales commitments have been made, but the material has not moved out of inventory.

Source: General Services Administration.

NATIONAL STOCKPILE ACTIVITIES

PROCUREMENT AND UPGRADING

The OEP Strategic Procurement Directive for FY 1966, issued in September 1965, and amendments to the Procurement Directive issued in January and April 1966, provided that one material—jewel bearings—be acquired by cash; six by upgrading existing inventories in basic forms of ore and metal—columbium metal, OFHC copper, morphine sulphate, tantalum metal, crystalline tungsten carbide powder, and hydrogen reduced tungsten powder; and nine materials by means of exchanging surplus agricultural commodities — chrysotile asbestos, refractory chromite, corundum, small diamond dies, iodine, iridium, palladium, rutile, and selenium.

The CCC contracted for deliveries of palladium, iodine, and diamond dies under the barter provision of the Agricultural Trade Development and Assistance Act of 1954, PL 480. The GSA consummated contracts for jewel bearings, tantalum metal, and columbium metal. Preliminary work on hydrogen reduced tungsten powder, crystalline tungsten carbide powder, morphine sulphate, and OFHC type copper was well advanced in GSA by June 30, 1966, and upgrading contracts were expected to be let early in FY 1967.

On April 14, 1966, the Congress enacted PL 89-390 which authorized the transfer of excess platinum and other materials authorized for disposition in payment of the purchase price of palladium. Two types of surplus property, (1) agricultural products and (2) "other" strategic materials, are now available for application against the costs of fulfilling the palladium objective which is in a deficit position. The approximately 316,000 troy ounce excess inventory of platinum, authorized for use under PL 89-390, was sold for cash.

The cost of services for upgrading basic materials to higher form has, in recent years, been met by payment in excess materials, usually in the kind of material normally used by the upgrader. The use of excess stockpile materials for payment-in-kind requires disposal authorization. The Congress approved the disposal of excess opium on June 21, 1966, PL 89-64, thus enabling the use of some of this ma-

terial for the beneficiation of gum opium to morphine sulphate in FY 1967.

JEWEL BEARING FACILITY

The Bulova Watch Company, Inc., continued producing jewel bearings for the stockpile and defense contractors under its stockpile contract covering the production of jewel bearings and the lease for the property at Rolla, North Dakota.

Deliveries of modern jewel bearing production equipment under 11 contracts with Swiss manufacturers are almost complete, and much of the new equipment is being utilized as quickly as initial operating details are worked out. All Swiss equipment deliveries should be completed by December 31, 1966.

The construction of the addition at the Rolla site is practically complete, and the new building was occupied for office and production purposes during the reporting period. The addition was publicly dedicated on May 28, 1966. Attending the ceremony were the Governor of North Dakota, the two U.S. Senators from North Dakota, one U.S. Representative, the Chairman of the Board, and the President and two Executive Vice Presidents of the Bulova Watch Company, which operates the facility, and Government officials. The new building and the modern Swiss equipment, which replaces World War II type equipment, will improve the efficiency of operations, should result in lower costs, and will provide increased capacity for producing jewel bearings in an emergency period.

DISPOSAL PROGRAM ACTIVITIES

Disposals of stockpile materials in the January-June period climaxed an unprecedented year of volume sales. Sales commitments by GSA reached an all time high of approximately \$582.2 million during the reporting period and \$1,028.2 million for the fiscal year 1966. The higher sales indicate that the industrial requirements, stimulated by the build-up in Vietnam as well as the rapidly

expanding economy, increased more during the period than the capacity to produce certain basic materials. Into this supply gap, the Government moved excess aluminum, molybdenum, vanadium, nickel, and other vital materials in quantities that permitted industry to sustain both the military demand and the growing civilian needs.

In the light of improved domestic and international market conditions, actions were initiated in October 1965 to intensify the rate of disposal programming in the months ahead. As a result of this continuing effort, practically all materials in excess of stockpile objectives were authorized for disposal or were under disposal programming as of June 30, 1966, except for 11 commodities—3 reduced by Congressional authorization, 2 retained for the stockpile, 3 awaiting supply-requirements determination, 1 postponed for six months due to market impact, and 2 which were deferred.

In attracting the bidding interest of small business concerns, consideration has been given

to lotting materials in small quantities, whether the contemplated sale involved the disposal of shelf-type items at fixed prices or the disposal of materials by sealed bids.

During January-June 1966, the Director of OEP gave final approval for the disposition of 31 disposal programs—25 from the National and Supplemental Stockpiles (subject to Congressional authorization), 4 from the DPA inventory, and 2 from both the Stockpile and the DPA inventory. Included among these were two Presidential releases—200,000 short tons of copper and 390,000 troy ounces of quinine. In addition, OEP has requested GSA to prepare a disposal plan for the sale of any portion of the 14 million jewel bearings presently classified as subspecification which do not meet production standards. These bearings are currently undergoing inspection at the Government-owned plant at Rolla, North Dakota.

The disposal plans approved by OEP during the period are as follows:

DISPOSAL PLANS AUTHORIZED BY OEP

January-June 1966

Material	Unit	QUANTITY	
		National and/or Supplemental Stockpiles*	DPA Inventory
Antimony	ST	21,164	
Asbestos, amosite	ST	15,500	
Asbestos, chrysotile	ST		1,500
Asbestos, chrysotile	ST	3,310	
Asbestos, crocidolite	ST	45,992	
Bauxite, refractory	LCT	126,000	
Beryl	ST	13,625	2,550
Castor oil	LBS	46,000,000	
Celestite	ST	9,865	
Chromite, metallurgical	SDT		85,646
Copper	ST	200,000 ¹	
Cordage fibers, sisal	LBS	100,000,000	
Corundum	ST	1,950	

DISPOSAL PLANS AUTHORIZED BY OEP (Cont)

January-June 1966

Material	Unit	QUANTITY	
		National and/or Supplemental Stockpiles*	DPA Inventory
Diamond tools	PC	64,180	
Ferromanganese, high carbon	ST	145,500	
Manganese, battery, natural	SDT	206,730	
Manganese, battery, syn. diox.	SDT	14,575	3,780
Manganese, chemical, type A	ST	78,400	
Manganese, chemical, type B	ST	36,850	
Manganese, metallurgical	SDT	1,900,000	
Mica, muscovite, block	LBS		6,400,000
Molybdenum	LBS	14,000,000 ²	
Opium, morphine content	LBS	39,490	
Quinine	TrOz	390,000 ¹	
Rare earths	ST	7,640	
Rhodium	TrOz	618	
Ruthenium	TrOz	15,000	
Titanium	LBS	3,500,000	
Titanium	ST		10,860
Tungsten	LBS	83,400,000	
Vanadium	ST	6,450	

* Disposal from the National and/or Supplemental Stockpiles requires approval of the Congress.

¹ Presidential Release under provisions of Section 5 of the Strategic and Critical Materials Stock Piling Act, as amended.

² Amends previous authorization covering 1,034,000 pounds.

The General Services Administration is responsible for developing sales plans for the disposal of surplus materials and is required by law to employ procedures and techniques which assure a maximum return to the Government with the minimum disruption to normal markets. In carrying out this responsibility, GSA consults with industry, both before and after passage of disposal legislation. During the reporting period, GSA conducted 21 industry-wide conferences with interested Government agencies and various segments of the industry involved to develop disposal methods mutually agreeable.

LEGISLATION RELATIVE TO STOCKPILE DISPOSALS

Although the economic climate for disposals during FY 1966 was ideal, the realization of \$1.0 billion in disposal sales was achieved through the cooperation of the 89th Congress and the dispatch with which the Congress considered and passed legislation covering disposals of excess commodities.

During January-June 1966, the Congress considered 25 disposal bills and enacted 18 authorizing the release of 21 materials from

the National and/or Supplemental Stockpiles. As of June 30, 1966, 7 bills involving 8 materials—fused crude aluminum oxide, metallurgical bauxite (Jamaica and Surinam types),

industrial diamond stones, diamond tools, battery grade synthetic manganese, metallurgical manganese, and silicon carbide—were awaiting Congressional action.

LEGISLATION RELATIVE TO STOCKPILE DISPOSALS

January-June 1966

Material	Unit	Quantity	Date Enacted	
Aluminum	ST	920,000	P.L. 460	6-21-66
Asbestos, amosite	ST	15,170	P.L. 422	5-11-66
Asbestos, crocidolite	ST	45,992	P.L. 463	6-21-66
Bauxite, refractory	LCT	126,300	P.L. 394	4-14-66
Bismuth	LBS	212,300	P.L. 417	5-11-66
Celestite	ST	9,865	P.L. 461	6-21-66
Chromite, metallurgical	SDT	885,000 ¹	P.L. 415	5-11-66
Cordage fibers, sisal	LBS	100,000,000	P.L. 462	6-21-66
Fluorspar, acid grade	SDT	32,000 ¹	P.L. 416	5-11-66
Mica, muscovite block	LBS	6,772,000	P.L. 419	5-11-66
Mica, muscovite splittings	LBS	22,666,000	P.L. 419	5-11-66
Mica, muscovite film	LBS	528,000	P.L. 419	5-11-66
Mica, phlogopite block	LBS	205,640	P.L. 418	5-11-66
Mica, phlogopite splittings	LBS	3,765,000	P.L. 418	5-11-66
Molybdenum	LBS	14,000,000	P.L. 413	5-5-66
Opium	LBS	39,490	P.L. 464	6-21-66
Platinum	TrOz	316,300	P.L. 390	4-14-66
Rhodium	TrOz	618	P.L. 420	5-11-66
Ruthenium	TrOz	15,000	P.L. 423	5-11-66
Thorium nitrate	LBS	3,500,000	P.L. 421	5-11-66
Vanadium	ST	6,450	P.L. 424	5-11-66

¹ Amended

SALES COMMITMENTS

During January-June 1966, GSA sales commitments totaled a record \$582.2 million of excess strategic and critical materials. This compares with the previous high of \$446.0 million for the July-December 1965 period and brings to \$1,028.2 million the total disposals for fiscal year 1966—an amount nearly equal to the cumulative sales of all the previous years since the inception of the disposal program in 1958. (See figures 1 and 2)

Of the \$582.2 million sold during the reporting period, disposals from the National and Supplemental Stockpiles accounted for \$413.5 million (including \$153.0 million authorized

by Presidential release under Section 5 of the Strategic and Critical Materials Stock Piling Act), disposals from the Defense Production Act inventory totaled \$160.1 million, and from other sales, including AEC surplus, approximately \$8.6 million. These materials had an acquisition cost of \$528.8 million which provided the Government with a gain of \$53.4 million for the period, and approximately \$125.0 million for the fiscal year. The major disposals for the six months consisted of aluminum, \$110.0 million; copper, \$156.1 million; lead, \$9.5 million; molybdenum, \$19.3 million; nickel, \$126.9 million; platinum, \$29.5 million; rubber, \$35.7 million; tin, \$34.4 million; tungsten, \$11.0 million; and zinc, \$13.3 million.

Figure 1

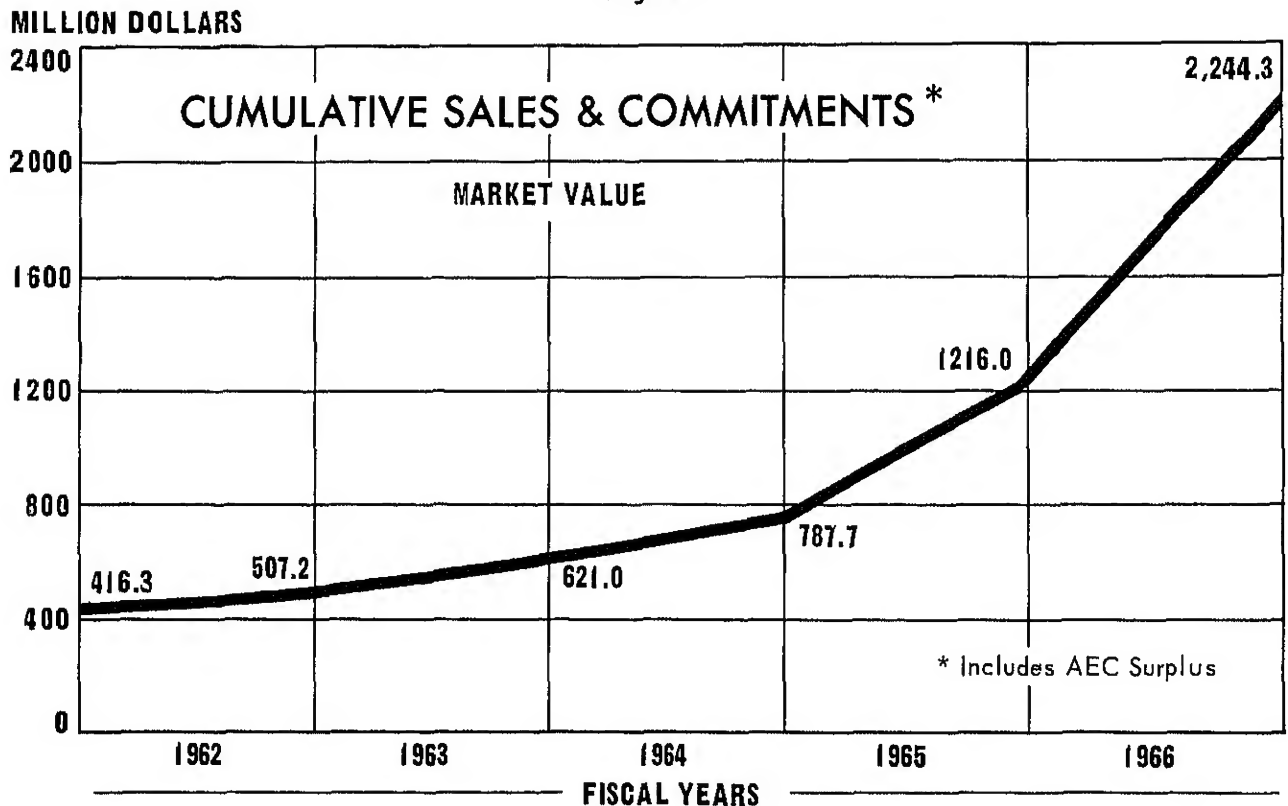
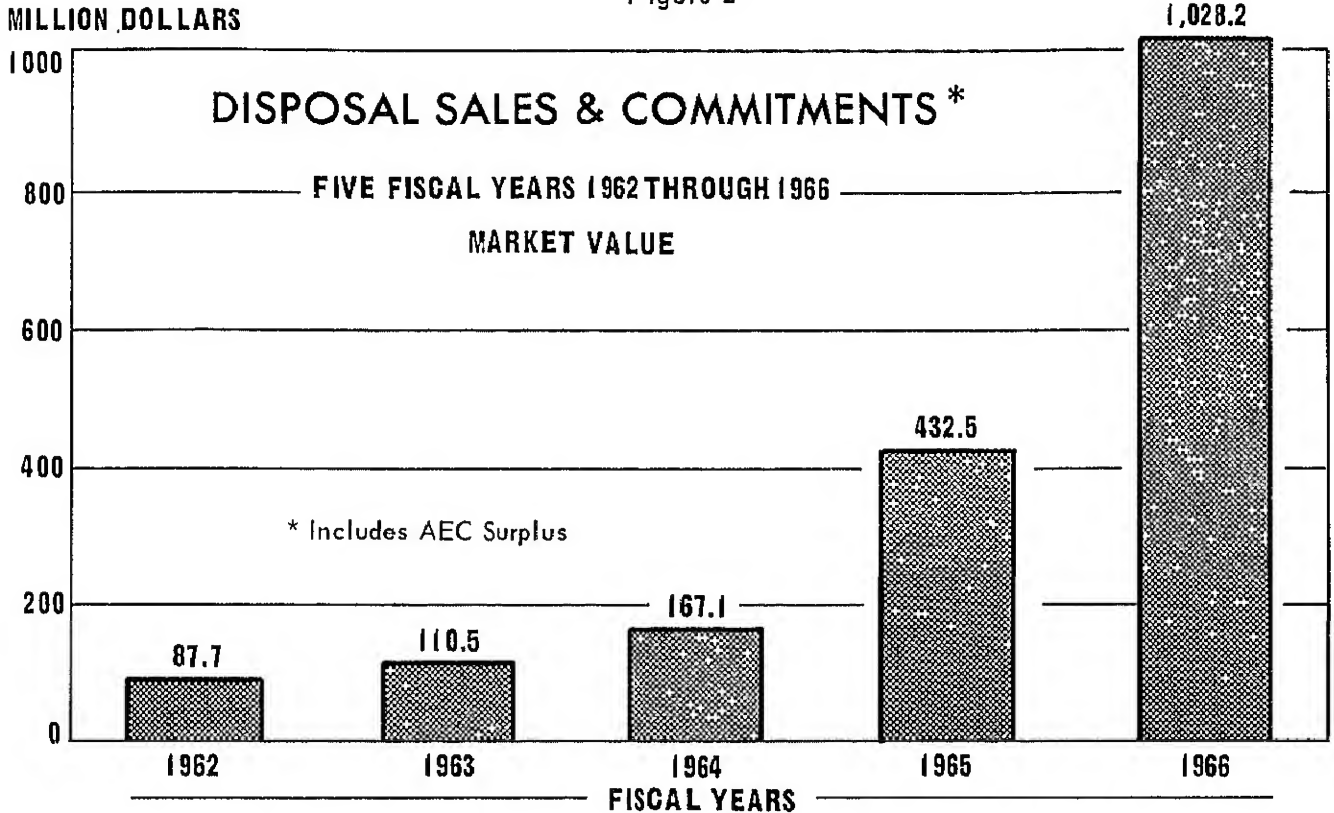


Figure 2



Sales to industry for the last six months were approximately \$558.2 million, an increase of \$255.1 million over the previous period. The sales of excess material under the Government-use program amounted to \$23.9 million for the reporting period. Total sales for FY 1966 for Government-use amounted to \$166.8 million compared with \$71.3 million in FY 1965.

The Government-use program provides raw materials for the Department of Defense and civilian agencies such as the Atomic Energy Commission and the Bureau of the Mint, thereby saving procurement dollars.

A list of the materials sold during the reporting period is shown in the following table.

DISPOSALS OF STRATEGIC MATERIALS

January-June 1966

			Sales Commitments		
Material	Unit	Quantity	Government Use	Industrial Use	Total Sales Value
NATIONAL STOCKPILE INVENTORY:					
Antimony	ST	46	\$ 40,940	\$	\$ 40,940
Bauxite, refractory	LCT	46,712		1,961,904	1,961,904
Bismuth alloy	LB	36,580	83,575		83,575
Cadmium	LB	2,142		5,148	5,148
Castor oil	LB	8,902,472		1,273,705	1,273,705
Chromite, metallurgical .	SDT	33,358		848,162	848,162
Chromium metal	LB	33,552		33,637	33,637
Copper	ST	227,109	180,000	155,879,203	156,059,203
Cordage fibers, abaca ...	LB	4,931,087		871,746	871,746
Cordage fibers, sisal	LB	1,221,764		97,649	97,649
Diamond dies, small	PC	4,982		17,421	17,421
Feathers and down	LB	2,963,958	5,151,600		5,151,600
Fluorspar, acid grade ...	SDT	2,935		59,970	59,970
Graphite, other	SDT	122		17,133	17,133
Graphite, Malagasy, crystalline	SDT	504		53,189	53,189
Hyoscine	OZ	2,134		18,181	18,181
Lead	ST	30,761	113,894	9,423,514	9,537,408
Magnesium	ST	8,776	409,695	5,052,540	5,462,235
Molybdenum	LB	11,473,890		19,286,232	19,286,232
Nickel oxide powder	LB	8,093,551		5,829,974	5,829,974
Nickel, various forms ...	LB	120,521,149		89,127,445	89,127,445
Platinum	TrOz	306,000		29,549,522	29,549,522
Quartz crystals	LB	23,540	14,733	45,748	60,481
Quinine	OZ	390,000	292,500		292,500
Rhodium	TrOz	445		107,318	107,318
Rubber	LT	69,691	14,293,223	21,412,633	35,705,856
Shellac	LB	140,799		30,818	30,818
Silk noils	LB	330,906		212,021	212,021
Talc, steatite lump	ST	1		300	300
Thorium (oxide contained)	LB	326,580	1,320,518		1,320,518
Tin	LT	9,142	1,130,096	33,268,362	34,398,458
Vanadium	ST-V	560		2,442,000	2,442,000

DISPOSALS OF STRATEGIC MATERIALS (Cont)

Material	Unit	Quantity	Sales Commitments		
			Government Use	Industrial Use	Total Sales Value
Vegetable tannin extracts:					
chestnut	LT	25	7,798		7,798
quebracho	LT	930	110,231	76,877	187,108
wattle	LT	50		9,520	9,520
Zinc	ST	43,390	645,759	12,657,204	13,302,963
Total National Stockpile			\$23,794,562	\$389,669,076	\$413,463,638
DEFENSE					
PRODUCTION ACT					
INVENTORY:					
Aluminum	ST	223,964		109,958,803	109,958,803
Asbestos, chrysotile	ST	260		44,135	44,135
Chromite, metallurgical .	SDT	84,286		1,968,439	1,968,439
Columbium	LB	1,017,552		2,755,214	2,755,214
Manganese, battery, synthetic dioxide	SDT	229	112,406		112,406
Manganese ore, metallurgical	SDT	71,721		1,388,273	1,388,273
Mica, muscovite block ..	LB	756		27,239	27,239
Nickel, ferro	LB	44,868,093		31,919,490	31,919,490
Titanium	ST	495		993,719	993,719
Tungsten concentrates ..	LBW	4,255,972		10,967,326	10,967,326
Total DPA			112,406	160,022,638	160,135,044
Materials Transferred to GSA from the Atomic Energy Commission:					
Mercury	FL	454		(57,755) ¹	(57,755) ¹
Vanadium Pentoxide .	ST-V	1,105		4,814,072	4,814,072
Yttrium bearing ma- terials	LB	84,141		1,791,219	1,791,219
Total AEC				6,547,536	6,547,536
Other ²					
Bauxite, metallurgical subspecification	LDT	440,000		2,000,000	2,000,000
GRAND TOTAL ...			\$23,906,968	\$558,239,250	\$582,146,218

¹ Credit adjustment for prior period.² Acquired by GSA under Federal Property Act.

NOTES ON STRATEGIC AND CRITICAL MATERIALS

JANUARY-JUNE 1966 ACTIVITY

Aluminum

Aluminum disposals have provided critically needed supplies to the industry at a time when the growth of productive capabilities has been unable to keep pace with the mushrooming requirements of this essential material. In addition to the increased commercial demand for aluminum, the buildup in Vietnam is taking increasing amounts of the metal. Without the disposals of excess stockpiled aluminum in the past year, the industry would have faced significant shortages.

The first six months of 1966 witnessed the rapid implementation of the aluminum disposal plan developed during the previous six-month period. In November 1965, four major aluminum producers—Aluminum Company of America, Kaiser Aluminum & Chemical Corporation, Reynolds Metals Company, and Olin Mathieson Chemical Corporation—agreed to participate in long-term purchase contracts for excess aluminum totaling approximately 1.4 million short tons. In early 1966, three more companies—Harvey Aluminum Incorporated, Revere Copper and Brass Incorporated, and the Aluminium Limited, Incorporated — became participating members of the long-term disposal agreement. The contracts also provided for an annual set-aside for small business firms, nonintegrated companies, and other nonparticipating contractors.

Under the contract, participating producers agree to purchase a total of 150,000 tons of aluminum during the period November 1, 1965 to December 31, 1966, and 100,000 tons annually thereafter, or, if Government requirements in any such period are greater, a quantity not in excess of 200,000 tons in any such period. Department of Defense contractors and subcontractors (including those of other agencies, if feasible) are required to purchase through the participating producers the quantity of Government aluminum required for end-products acquired under Government contracts.

Participating producers are permitted to accelerate purchases and may exercise certain deferrals providing all obligations to purchase

during each successive four-year period is fulfilled by December 31, 1969 (the end of the first period) and during each successive four-year period not later than the end of such period. During the first seven months of the program ending June 30, 1966, sales totaled 273,419 tons valued at \$134.4 million—approximately 123,000 tons in excess of the contractual obligations for the full year ending December 31, 1966. Of the total, approximately 4,000 tons, valued at about \$385,000, were sold to nonparticipating firms.

Copper

In the Fall of 1965, the Free World copper supply situation worsened. This situation was aggravated by the Chilean mines, which account for one-sixth of the Free World supply of copper, being struck for 31 days and by the political situation in Rhodesia which threatened curtailment of exports of Zambian copper. In October 1965, Chilean authorities directed U.S. producers to sell their Chilean produced copper for 38 cents a pound, and in November U.S. producers raised domestic prices accordingly, but later rescinded the 2 cent increase at the request of the Government. In the light of the international situation, prices on the London Metal Exchange rose rapidly reaching a peak of 98 cents a pound in April and declining to 74 cents by June 30, with domestic dealer prices only slightly lower.

On November 18, 1965, the President authorized the release of 200,000 short tons of copper from the National Stockpile under authority of Section 5 of the Strategic and Critical Materials Stock Piling Act. By January 1966, the Department of Commerce had allocated 192,000 short tons of the 200,000 short tons for domestic consumption only, giving priority to defense requirements, the alleviation of hardship, and the needs of small business.

On March 21, 1966, the President authorized a second release of 200,000 short tons of copper. Again sales were made to consumers on the basis of defense orders and hardship needs at a base price of 36 cents a pound. Approximate

mately 370 consuming companies participated in the distribution.

During the reporting period, a total of 227,109 tons, valued at \$156.1 million, were sold, bringing the total sales for the fiscal year to 582,000 tons, valued at \$383.9 million, which represents approximately 24 percent of the estimated U.S. consumption of refined copper in FY 1966.

Feathers and Down

During the reporting period, the last of the Government surplus, except for 120,000 pounds of substandard material, was transferred to the Department of Defense. This transfer totaled approximately 3 million pounds, valued at \$5.1 million, and brings to 9.7 million pounds the surplus sold from the Stockpile since 1960 returning \$18.7 million to the Government. Practically all this material has been used in military sleeping bags and hospital pillows.

Lead

A total of 30,383 short tons of lead, valued at \$9.4 million, was sold commercially in the January-June 1966 period, bringing industrial sales for fiscal year 1966 to 45,852 tons, valued at \$14.2 million. In addition, Government-use programs accounted for a cumulative total of 1,562 tons, valued at \$485,753. Beginning June 1966, GSA made lead a shelf item available at any time in minimum lots of five tons, f.o.b. storage locations at the prevailing market price. As of June 30, 1966, approximately 84,600 tons of pig lead remained available for sale to industry and 48,440 tons for Government-use programs under the PL 89-9 authorization of April 2, 1965. As of June 30, 1966, the total excess in the National Stockpile was approximately 1,256,300 short tons.

Magnesium

Due to the growing aluminum production, and increased market requirements, magnesium sales for the reporting period totaled 8,776 short tons valued at \$5.5 million as compared to previous sales, averaging about 4,000 tons a year. This rapidly changing demand situation became evident when GSA sealed-bid offerings were heavily oversubscribed. Approx-

imately 661 short tons of the total sales were transferred to the Atomic Energy Commission.

Molybdenum

To meet the critical needs of the consuming industry, GSA made an expeditious release of molybdenum immediately upon enactment of Public Law 89-413 on May 5, 1966, authorizing the release of 14 million pounds of excess material from the National Stockpile. This request for Congressional action was prompted by evidence of a substantial increase in supply over the near future which justified a reduction in the stockpile objective and made additional molybdenum available to ease the tight supply situation. In order to achieve the most equitable distribution, industry agreed that the material should be made available under an allocation system prepared by the Department of Commerce against applications from consumers.

Approximately 7,509,000 pounds of molybdenic oxide and 3,965,000 pounds of molybdenum concentrates were released for domestic consumption for a total value of \$19.3 million with the balance to be made available during FY 1967.

Nickel

On November 5, 1965, the Congress enacted Public Law 89-323, authorizing the sale of 200 million pounds of nickel from the National Stockpile. At that time, disposal planning called for periodic offerings at a rate of approximately 25 million pounds per year. However, the tight market situation and rapidly growing demand brought about a reconsideration of disposal plans. After consultations with Government experts and industry representatives, it was concluded that larger quantities would need to be moved into consumption through regular producer channels. Accordingly, GSA entered into long-term purchase contracts with the three Canadian and one domestic producer of primary nickel totaling 164 million pounds of electrolytic nickel and nickel contained in ferronickel for sale over a four-year period. By the end of the reporting period, stepped-up deliveries had taken all except approximately 36.5 million pounds of the 164 million pounds under the long-term contracts. In addition,

GSA provided for periodic offerings to small business firms and nonintegrated users.

Sales commitments to producers, traders, and small business firms during the six months totaled approximately 173.5 million pounds, valued at \$126.9 million.

Platinum

In the midst of a severe shortage of platinum, Public Law 89-390 was enacted on April 14, 1966, authorizing the release of approximately 316,000 troy ounces of platinum. At a GSA meeting with 75 industry representatives it was agreed that the material should be released through regular distributor channels under arrangements assuring its equitable distribution. In distributing the material, priority was given to defense requirements, hardship cases, and small business.

Of the 316,000 troy ounces authorized for disposal, 306,000 troy ounces were sold during the period for \$29.5 million. The quantity released is equivalent to approximately 60 percent of the present annual rate of U.S. consumption.

Quinine

By Presidential release, 390,000 ounces of quinine sulphate, with a value of \$292,500, were transferred to the Department of Defense from the National Stockpile. The quinine was required for use in Vietnam to combat a strain of malaria which resists the synthetic drug.

Rubber

On June 10, 1966, GSA, in consultation with interested Federal agencies, announced a new rubber disposal program with the view of increasing the annual rate of sales. During the development stage, discussions were held with representatives of the domestic industry and governments of the principal rubber producing countries. Under the program, the Government plans to make available a maximum quantity of approximately 170,000 long tons of stockpile rubber over the 12 months period ending March 31, 1967. Offers are expected to be scheduled at equal intervals at a quarterly rate of 42,500 tons with any unsold portion cancelled at the end of each quarter. For some

time, defense contracts have specified that manufacturers of certain rubber products must purchase 50% of the contract value in the form of stockpile rubber to be consumed domestically. During January-June 1966, rubber sales totaled 69,691 long tons of which 40,387 long tons went to commercial sales and 29,304 tons to Government programs, bringing the total sales for fiscal year 1966 to 130,847 long tons—commercial sales totaling 76,387 tons and Government programs 54,460 tons. Of the 54,460 tons, AID programs accounted for 20,434 tons, DOD truck and aircraft tires and retreading programs, 26,771 tons, and other Government-use programs, 7,255 tons. Since the inception of the rubber disposal program in October 1959, the Congress has authorized the sale of approximately 1,090,000 long tons of excess rubber from the National Stockpile. Sales to date have amounted to approximately 559,438 long tons, leaving about 530,562 tons available for disposal.

Sisal

The disposal of 9.5 million pounds of sisal fiber authorized by Public Law 88-617, enacted October 2, 1964, was completed with the disposal of 1,221,764 pounds valued at \$97,649.

At the close of the reporting period, preparations were under way for the long-range disposal of an additional 100 million pounds of sisal fiber authorized under Public Law 89-462, enacted June 21, 1966.

Tin

Sales of tin from the National Stockpile during the reporting period amounted to 9,142 long tons, valued at \$34.4 million, of which 8,850 tons were sales to industry, 266 tons to AID programs and 26 tons to other Government agencies. Since tin disposals were initiated on September 12, 1962, cumulative sales have amounted to 74,080 long tons, valued at \$255.9 million. As of June 30, 1966, approximately 73,920 long tons remained available for disposal under the Congressional authorization.

Vanadium

During the period, disposals of Government excesses contributed greatly towards relieving a critical shortage of this material. Sales con-

sisted of the first 560 short tons of the 6,450 short tons of vanadium pentoxide released under Public Law 89-424, enacted on May 11, 1966, and the remaining 1,105 short tons of excess material previously transferred from the Atomic Energy Commission. Total fiscal year 1966 sales of 2,946 short tons of this vanadium have added appreciably to the available supplies of this vital metal alloy.

Vegetable Tannins

Sales of vegetable tannins totaled 1,005 long tons for \$204,426. Of this total, 622 long tons, with an approximate value of \$118,000, were sold under the Government-use program whereby firms holding Department of Defense contracts for shoe or leather products are required to obtain tannin from the National Stockpile.

Zinc

In response to industry's further request for aid, the Congress enacted Public Law 89-322

on November 4, 1965, authorizing the emergency release of another 200,000 short tons of zinc from the National Stockpile. In the period since July 1964, the Congress has approved disposals totaling 475,000 tons of zinc to meet emergency needs. Because these releases have done much to ease the domestic supply situation, Government sales declined substantially during the reporting period—to 43,390 tons, valued at \$13.3 million, as compared to 135,183 tons in the previous six months at a value of \$40.7 million. Sales methods employed by GSA to effect the most equitable distribution of the available zinc were developed in close cooperation with industry. Effective June 1966, GSA initiated sales of zinc on a shelf item basis in minimum lots of five tons at the prevailing market price at time of delivery. There remain about 100,000 tons available for sale under the November 4, 1965 authorization. As of June 30, 1966, the total excess available in the National Stockpile for disposal programming was approximately 1,225,500 short tons.

ACTIVITIES OF THE GENERAL SERVICES ADMINISTRATION RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

The General Services Administration is charged with the general operating responsibility, under policies set forth by OEP, for stockpile management, including (1) purchasing and making commitments to purchase, transferring, rotating, upgrading, and processing of metals, minerals, and other materials; (2) expansion of productive capacity through the installation of additional equipment in Government-owned plants and the installation of Government-owned equipment in privately-owned facilities; (3) storage and maintenance of all strategic materials held in Government inventories; and (4) disposal of excess stockpile materials, including the development of disposal plans, selling the materials, and arranging for Government use of such materials.

The activities of the General Services Administration particularly in connection with procurement, upgrading, and disposals have been summarized in the earlier sections of this report.

STORAGE AND MAINTENANCE

On June 30, 1966, approximately 48.9 million tons of strategic materials were stored at 152 locations, as follows:

<i>Type of Facility</i>	<i>As of 6-30-66</i>	<i>Change in Last 6 months</i>
Military depots	45	—1
GSA depots	26	0
Other Government-owned sites	14	—1
Leased commercial sites	15	0
Industrial plantsites	40	0
Commercial warehouses	12	0
Total	152	—2

Evacuation of the Rock Island Army Depot, Rock Island, Illinois, was completed during the period. The small remaining quantity of stockpile materials was transferred to a nearby GSA depot.

Department of the Army facilities in Schenectady, New York, and LaCarne, Ohio, are scheduled for inactivation by the Army on December 31, 1966. As large quantities of strategic materials are located at these facilities, GSA will continue to operate portions of the facilities as stockpile depots. During the period, arrangements were made with the Army for GSA to assume all administrative and shipping functions involving stockpile materials. The Army is to continue to provide protection and maintenance services until the final inactivation date. The administrative and shipping functions were assigned to nearby GSA depots.

Shipments from the stockpile were made at a record rate, as 933,000 tons (approximately 20,000 freight car loads) of materials were physically moved from the depots during the

period, as compared with 290,000 tons during the previous six-month period.

Heavy outshipments in FY 1966 resulted in a projected savings in recurring storage costs exceeding \$150,000 per year. This projection is based upon space reduction, primarily from military facilities, resulting from outshipment of excess materials in FY 1966. Even greater recurring savings in storage costs will be one of the major program goals as expanded release of excess materials from inventory continues.

Further savings of \$68,000 in annual recurring storage costs were effected during FY 1966 by transferring 7,792 tons of cordage fiber from commercial warehouses to Government depots.

ACTIVITIES OF THE DEPARTMENT OF COMMERCE RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

The Department of Commerce has been delegated a number of responsibilities with regard to the National Stockpile and these in turn have been assigned to the Business and Defense Services Administration (BDSA) within the Department. BDSA prepares for the Office of Emergency Planning estimates of essential civilian and war-supporting requirements for strategic materials in a mobilization period, a basic element in determining stockpile objectives. In certain limited cases, it also prepares estimates of the mobilization supply of such materials. It reviews plans for disposal of surplus stockpile materials and it provides GSA with its evaluation of the market impact of proposed schedules of sales. In addition, it develops recommendations in the matter of purchase specifications and storage procedures. Finally, it prepares special studies for OEP regarding strategic material problems and, in general, submits to OEP, on behalf of the Department, recommendations or advice on stockpile policies and programs.

ESSENTIAL CIVILIAN AND WAR-SUPPORTING REQUIREMENTS

OEP has been developing updated guidelines for use in estimating essential civilian and war-

supporting requirements in a mobilization period which does not involve a nuclear attack on the United States. At the same time it is proceeding with its study of methods for estimating requirements where a nuclear attack is involved. Pending receipt of guidance in these two areas, BDSA has been limiting its studies of essential civilian requirements in a conventional war to those commodities for which there are special problems and for which OEP furnished interim guidelines. Under these circumstances BDSA reviewed requirements for the following stockpile items: bismuth, acid grade fluorspar, molybdenum, nickel, and vanadium.

DISPOSAL PROGRAMS

BDSA's participation in the development of disposal programs for stockpile surpluses continued at the extremely active rate prevailing in the previous period, particularly in the first three months of the year. Based on market analyses and industry consultations, recommendations regarding the feasibility of proposed disposal plans or changes in existing plans and the appropriateness of rates of sale for the specific markets involved covered 28 materials and included several amendments or revisions of individual plans. As shown below, a total

of 35 recommendations were submitted to GSA or OEP during the six-month period under review.

Antimony	Manganese Ore,
Asbestos, Amosite	Metallurgical
Asbestos, Chrysotile-	Grade, Review
Subspecification	Manganese Ore,
Addition	Metallurgical
Bauxite, Refractory	Grade,
Grade	Subspecification,
Beryl Ore	Revision
Chromite, Offgrade	Manganese, Synthetic
Columbium,	Dioxide
Review #1	Mica, Muscovite,
Columbium,	Block & Film
Review #2	Mica, Muscovite,
Columbium,	Splittings
Review #3	Molybdenum,
Corundum,	Revision #1
Subspecification	Molybdenum,
Diamond Bort	Revision #2
Diamond Tools	Molybdenum,
Ferromanganese,	Revision #3
High Carbon	Rhodium
Fluorspar,	Rare Earths
Acid Grade	Ruthenium
Magnesium, Revision	Thorium, Review
Manganese Ore,	Tin, Review
Battery Grade	Tungsten, Review #1
Manganese Ore,	Tungsten, Review #2
Chemical Grade A	Tungsten, Review #3
Manganese Ore,	Tungsten, Review #4
Chemical Grade B	

NATIONAL STOCKPILE SPECIFICATIONS AND SPECIAL INSTRUCTIONS

Submission of recommendations to OEP regarding National Stockpile purchase specifications and special instructions proceeded at a somewhat lower than normal rate, in part because of the difficulty of reconciling divergent views between industry representatives and/or between Government agencies in some cases and also because of special problems related to individual items. Resolution of these difficulties should result in a larger number of submissions in the next half year. The following materials were covered during the period under review.

Antimony	Tungsten Metal
Beryllium Metal	Powder, Hydrogen
Quartz Crystal	Reduced
Silver	Tungsten Carbide,
	Crystalline

STORAGE PROCEDURES

At the request of GSA, BDSA reviewed proposed revisions of stockpile storage procedures for four commodities. Recommendations were submitted for aluminum oxide, cordage fibers, mica, and silicon carbide.

SPECIAL STOCKPILE STUDIES AND RELATED ACTIVITIES

Refractory Grade Bauxite.—In light of Congressional approval of a plan to dispose of surplus refractory grade bauxite, OEP authorized the sale of 40,000 tons in the first year of the program. Because of the tight supply situation for this material, possibly requiring allotments to assure an equitable distribution, a survey of 1965 receipts by consumers was undertaken for use in developing an allocation pattern.

Molybdenum.—A special study was made of the prospective mobilization requirements and supply of molybdenum to determine if new developments warranted an early review of the stockpile objective for this material. The study was prompted by evidence of a substantially improved supply situation over the near future which could result in a lower objective and, in consequence, the development of an additional surplus. Such a surplus, when made available for disposal, would ease an exceedingly tight supply situation. The study was forwarded to OEP which directed a new stockpile review as a result of the data submitted. The review confirmed the existence of a surplus for which disposal arrangements were subsequently developed.

Molybdenum Disposal.—In May 1966, Congress approved the release and sale of 14 million pounds of surplus molybdenum from the National Stockpile. It was agreed by the agencies concerned that the tight supply situation warranted the use of an allocation system and that BDSA would be best qualified to develop for GSA an equitable method of distribution. Accordingly, BDSA conducted a survey of

molybdenum consumers to develop information on stocks on hand, historical consumption, projected requirements (including defense orders), and the expected supply for the second quarter. BDSA then prepared a schedule of shipments against requests by consumers which in effect took care of defense orders and built up inventories to operating levels. Shipments were made for domestic consumption only, primarily to steel mills and foundries. Total requests were received for 4,680,000 pounds and authorizations to purchase were issued for 4,269,000 pounds.

To facilitate and expedite shipments to consumers of upgraded forms of molybdenum not made available from the stockpile, 2.4 million pounds of molybdenum concentrates and 4.8 million pounds of molybdenum oxide were sold to the Climax Molybdenum Company and 1.5 million pounds of the concentrates were sold to the Molybdenum Corporation of America. Such advance sales were made to these two companies since they were the only producers of molybdenum that had open capacity available for the making of the upgraded products such as ferromolybdenum, and pure molybdenum oxide, and they serviced practically all consumers with these products. The sales contracts in both cases provided that shipments of the upgraded products to consumers made from the GSA molybdenum sold to these producers were to be made only as directed by BDSA.

A second industry survey was made to cover demand for the third quarter of 1966 and a recommendation was prepared providing for defense orders and 30-day inventory levels. In this case total requests were for 3.7 million pounds of molybdenum. However, subsequent to July 1, authorizations to purchase were issued for only about one-half this quantity, or 1,908,000 pounds.

By making quarterly distributions in this manner, it is expected that disposal of the

entire 14 million pounds will be stretched out over the period of tight supply extending probably to the middle of 1967.

Copper.—On March 21, 1966, the President approved the release of 200,000 short tons of copper from the National Stockpile for the purpose of the common defense.

Approximately 125,000 tons of electrolytic cathodes and 75,000 tons of wire bars were authorized for release. This copper was to be sold for domestic consumption only and could not be exported.

The copper was sold at a base price of 36 cents a pound by the General Services Administration. Producers of primary domestic refined copper are redistributing the 200,000 tons in minimum quantities of 20,000 pounds to consumers on the basis of instructions from the Business and Defense Services Administration.

Eligible applicants were instructed to file application forms with BDSA for an allocation to meet May-June 1966 hardship requirements, and again for an allocation to meet third quarter 1966 hardship requirements.

First priority was given to defense requirements by instructing all producers of copper controlled materials to place defense-rated orders on producers of domestic primary refined copper, in accordance with the provisions of Directive 2 to BDSA Order M-11A. The producers of domestic primary refined copper, which chose to participate in the allocation, were given a total of approximately 81,300 tons out of the 200,000 tons being allocated for the purpose of filling the defense orders.

The balance of the 200,000 tons was allocated to 369 copper consuming companies to meet May-June 1966 hardship requirements, and 378 copper consuming companies to meet third quarter 1966 hardship requirements. The needs of small business were also given due consideration.

ACTIVITIES OF THE DEPARTMENT OF STATE RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

The Department of State provides advice and guidance in regard to the effects of stockpile program activities on the foreign relations, and thus on the national interest of the United

States, and deals with international relations problems arising out of these activities. The Department helps to assess the availability of strategic and critical materials from the pri-

mary producing countries and the reliability of these sources in time of national emergency. It participates in a review of the supply and demand situation for each of the strategic materials and helps to develop stockpile objectives.

The Department shares in the development of long-range plans for the disposal of surplus materials and conducts consultations with interested foreign governments on proposed disposals. Based on these consultations, an evaluation is made of the political and economic effects of such plans on friendly foreign countries and on the foreign relations of the United States. As necessary, the Department makes recommendations for the adoption or modification of proposed disposal plans.

The Department reviews proposals for the barter of United States surplus agricultural

commodities for strategic materials. It also assists and advises the Department of Agriculture on foreign policy problems arising from the implementation of barter programs.

During the reporting period, the Department conducted a large number of consultations on new disposal plans and on modification of existing programs. For example, extensive consultations were held with interested foreign governments and with the international organizations dealing with rubber and tungsten on the amended disposal programs for these materials. The Department received and handled such adverse foreign reactions to our disposal as arose and gave advice on new foreign policy developments which had a bearing on already existing programs.

ACTIVITIES OF THE DEPARTMENT OF AGRICULTURE RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

BARTER ACTIVITIES

Barter acquisitions for foreign-produced strategic materials for the stockpile have been a smaller part of program activities since 1963 because most of the Government's stockpiling needs have been met. Strategic materials still needed to meet stockpile requirements may be acquired through barter transactions. Materials excess to stockpile requirements also may be acquired advantageously, in accordance with the Presidentially-approved recommendations of the Executive Stockpile Committee, (1) in lieu of taking additional foreign currency, (2) for foreign policy reasons, or (3) when a Government dollar contract can be converted to a barter basis.

During January-June 1966, nine barter contracts were signed for strategic materials valued at \$28.2 million. Eight contracts with a value of \$27.7 million provide for the acquisition of Congolese industrial diamonds for the Supplemental Stockpile. These contracts are part of an \$83.1 million project which also provides for financing of (1) uranium for the Atomic Energy Commission and (2) goods and services for overseas installations of the Department of Defense. The ninth contract provides for delivery of diamond dies, worth \$500,000, needed to fill stockpile objectives.

Strategic materials valued at \$22.1 million were delivered during the period January-June 1966, bringing the cumulative total of strategic materials delivered to the Commodity Credit Corporation under barter contracts since 1950 to approximately \$1.6 billion. Of this total, \$223.5 million were transferred to the National Stockpile and about \$1.4 billion to the Supplemental Stockpile through June 30, 1966.

PURCHASE OF STRATEGIC AND CRITICAL MATERIALS

No foreign currency (under Section 104 (b)) has been earmarked specifically for the purchase of strategic materials under Title I, Public Law 480 agreements. However, in a number of agreements, provision has been made to utilize foreign currencies for the purchase of strategic and other materials for the Supplemental Stockpile in the event there is need to do so.

TRANSFERS FROM STOCKPILE FOR DISPOSAL

In 1962, all National Stockpile extra long staple cotton was transferred by the General Services Administration to the Commodity

Credit Corporation—47,518 bales of domestic cotton and about 123,000 bales (running) of Egyptian and Sudanese cotton.

The domestic cotton was added to CCC's inventory, resulting in a total of 53,740 bales and is being sold for unrestricted use. Cumulative sales under the program from August 1, 1962 through December 31, 1965 were 13,098 bales. Sales during the period January-June 1966

were 2,165 bales, reducing this inventory to 38,477 bales.

The foreign-grown portion of the cotton is being disposed of through an export sales program. Cumulative sales under the program from August 1, 1962 to December 31, 1965 totaled 89,791 bales. Sales during the period January-June 1966 totaled 18,094 bales, reducing the inventory to 15,115 bales.

ACTIVITIES OF THE DEPARTMENT OF THE INTERIOR RELATING TO STOCKPILING OF STRATEGIC AND CRITICAL MATERIALS

The Department of the Interior has the responsibility for the management, conservation, and development of the Nation's natural resources to meet the requirements of national security and an expanding economy. The Department provides advice and assistance to the Office of Emergency Planning in formulating and carrying out programs for the stockpiling of strategic and critical materials. The Department of the Interior conducts research in exploration, mining, beneficiation, and metallurgy and compiles information on production and consumption for use in stockpile planning.

The Department is responsible for emergency preparedness planning with respect to strategic metals and minerals and other resources, and conducts supply-requirements studies when market conditions or other circumstances warrant, in order to identify problem areas and materials which are likely to be in short supply and to recommend appropriate action to overcome deficiencies. The Department also administers programs to encourage the exploration, development, and mining of minerals and metals for emergency purposes.

STOCKPILE DISPOSALS

An increased amount of work has been accomplished by the Department in the development of long-range programs for the disposal of surplus Government stockpile inventories. During the formative stages of each disposal program and in the development of methods of sale, the Department consulted with representatives of the industries, which would be affected by the disposal, in order to obtain their

views and comments. These views along with analyses of the market situation are the basis for Departmental recommendations.

OTHER ACTIVITIES

Growing industrial and defense requirements combined with a rapid drawdown of Treasury silver stocks created a need for better understanding of the end-use consumption pattern for silver. To obtain the necessary data, the Bureau of Mines started a quarterly canvass of silver consumers. Data for the first quarter of 1966 were published in the Bureau of Mines Mineral Industry Surveys series.

The Department undertook an expanded Heavy Metals Program to increase potential domestic resources of heavy metals including gold, silver, platinum, palladium, osmium, iridium, mercury, tin, bismuth, antimony and tantalum. Consumption of these metals exceed present domestic supply sources. Investigations on land and on the Continental Shelf are in progress by the U.S. Geological Survey, under its newly established Branch of Heavy Metals, in order to obtain a better understanding of the environments of deposition and thereby to expand the domestic resources base of these metals. Mining and metallurgical research were planned by the Bureau of Mines on techniques for recovering these metals from types of deposits not now exploited, such as deep marine deposits or unusually large low-grade or metallurgically refractory deposits.

Special and technical reports, issued during January-June 1966, having a relationship to strategic and critical materials are as follows:

BUREAU OF MINES

Reports of Investigation

- 6713 Vapor Deposition of Cobalt-Tungsten Alloys
- 6714 Copper Extraction From a Low-Grade Ore by *Ferrobacillus Ferrooxidans*
- 6715 Corrosion Properties of Molybdenum, Tungsten, Vanadium, and Some Vanadium Alloys
- 6724 Heats of Formation of Beryllium Sulfate and Its Hydrates
- 6727 Thermodynamic Properties of Vanadium and Its Compounds
- 6728 Recovery of Manganese From Slag Formed by Selective Oxidation of High-Manganese Pig Iron
- 6730 A Cost Estimate of the Bayer Process for Producing Alumina
- 6731 Effect of Certain Process Variables on Vapor Deposited Tungsten
- 6734 Electric-Arc Furnace Reduction of Tin Slag for Production of Columbium-Tantalum-Bearing Alloy
- 6737 Tin-Lode Investigations, Cape Mountain Area, Seward Peninsula, Alaska
- 6738 Reduction-Volatilization Processes for Recovery of Manganese From Ores
- 6739 Critical Path Planning and Scheduling Applied to Mining Operations
- 6742 Electrowinning Tungsten in Halide and Phosphate Electrolytes
- 6744 Extraction of Alumina by Leaching Melted and Quenched Anorthosite in Sulfuric Acid
- 6747 In-Situ Measurement of Rock Deformation in a Vein-Type Deep Mine (in two sections)
- 6754 The Thermodynamic Properties of the $\text{ZnO-Fe}_2\text{O}_3\text{-Fe}_3\text{O}_4$ System at Elevated Temperatures (in two parts)
- 6755 Carbon Reduction of Chromite
- 6757 High Energy-Rate Forging and Extrusion and the Effect on Structure and Properties
- 6762 Recovery of Manganese Sulfate Crystals From Solution by Submerged Combustion Evaporation and by Thermal Crystallization
- 6765 Improvement of a Commercial Hypereutectic Aluminum-Silicon Master Alloy
- 6768 Some Generalized Probability Distributions with Special Reference to the Mineral Industries (in five parts)
- 6769 The Thermodynamic Properties of the $\text{ZnO-Fe}_2\text{O}_3\text{-Fe}_3\text{O}_4$ System at Elevated Temperatures (in two parts)
- 6771 Consolidation and Mechanical Properties of Electrowon Molybdenum
- 6774 Effect of Charge Weight on Vibration Levels From Quarry Blasting
- 6775 Reduction Roasting-Acid Solution Techniques in Laboratory Processing of Minnesota Manganiferous Ores
- 6776 Drillability Studies. Impregnated Diamond Bits
- 6777 High-Temperature Columbium and Tantalum Alloys
- 6778 Using Probability Models as a Basis for Making Decisions During Mineral Deposit Exploration
- 6780 Volatilization of Cesium Chloride From Pollucite Ore
- 6782 Low-Temperature Heat Capacities and Entropies at 298.15° K of Ferrous Molybdate and Ferrous Tungstate
- 6785 Electrodeposition of Aluminum From Fused-Salt Electrolytes Containing Aluminum Chloride
- 6789 Fuse-Fluoride Electrowinning of Thorium-Base Alloys
- 6794 Decomposition of Manganese Sulfate by a Partial Reduction Process
- 6805 Electrolyte Life in Winning Tungsten From Scheelite
- 6807 Activity of Manganese in Liquid Iron-Manganese Alloys

Information Circular

- 8288 Computing Reserves of Mineral Deposits: Principles and Conventional Methods

Bureau of Mines (Continued)

Reprint

PB-169 681—Thermodynamic Properties of Vanadium and Its Compounds

U.S. GEOLOGICAL SURVEY

Professional Papers

- 341-E Geology and mineral resources of the Monlevade and Rio Piracicaba quadrangles, Minas Gerais, Brazil, by Robert G. Reeves. (manganese)
- 341-F Geology and mineral resources of the Pico de Itabirito district, Minas Gerais, Brazil, by R. M. Wallace (manganese).
- 508 Geology and uranium-vanadium deposits of the La Sal quadrangle, San Juan County, Utah, and Montrose County, Colorado, by W. D. Carter and J. L. Gualtieri.
- 525-A Geological Survey Research 1965, Chapter A. Summary of the more significant research findings in mineral resources and related subjects.
- 550-B Geological Survey Research 1966. Scientific notes and summaries of investigations.

Bulletins

- 1199-M Bauxite deposits of northwest Georgia, by W. S. White and N. M. Denson *with a section on* the Summerville area, by J. C. Dunlap and E. F. Overstreet.
- 1208 Economic geology of the Idaho Springs district, Clear Creek and Gilpin Counties, Colorado, by R. H. Moench and A. A. Drake, Jr. (gold, silver, copper, lead, zinc).
- 1214-C Beryllium content of volcanic rocks, by D. R. Shawe and Stanley Bernold.
- 1222-A Geology and mineral deposits of the Mosheim and Johnson anticlines, Greene County, Tennessee, by A. L. Brokaw, J. C. Dunlap, and John Rodgers (zinc).
- 1230-E Mineral resources of the Stratified Primitive Area, Wyoming, by K. B. Ketner, W. R. Keefer, F. S. Fisher, and D. L. Smith, U.S. Geological Survey, and R. G. Raabe, U.S. Bureau of Mines (lead, zinc, copper, silver, molybdenum).

Circular

- 521 Mineral resources of the Grandfather Mountain window and vicinity, North Carolina, by Bruce Bryant and J. C. Reed, Jr. (mica, titanium, asbestos).

STATUS OF OBLIGATIONAL OPERATIONS
Under PL 117 and PL 520 for The National Stockpile

As of June 30, 1966

AUTHORITY	APPROPRIATED FUNDS <u>a/</u>	AUTHORIZATIONS FOR		TOTAL OBLIGATIONAL AUTHORITY (CUMULATIVE) <u>d/</u>
		MAKING ADVANCE CONTRACTS <u>b/</u>	LIQUIDATING OUTSTANDING ADVANCE CONTRACTS <u>c/</u>	
<u>Under PL 117 - 76th Congress</u>				
PL 361 - 76th Congress, August 9, 1939	\$ 10,000,000	\$	\$	\$ 10,000,000
PL 442 - 76th Congress, March 25, 1940	12,500,000			22,500,000
PL 667 - 76th Congress, June 26, 1940	<u>47,500,000</u>			<u>70,000,000 <u>e/</u></u>
<u>Under PL 520 - 79th Congress</u>				
PL 661 - 79th Congress, August 8, 1946	100,000,000	-	-	100,000,000
PL 271 - 80th Congress, July 30, 1947	100,000,000	75,000,000	-	275,000,000
PL 785 - 80th Congress, June 25, 1948	225,000,000	300,000,000	-	800,000,000
PL 785 - 80th Congress, June 25, 1948	75,000,000	-	75,000,000	800,000,000
PL 119 - 81st Congress, June 23, 1949	40,000,000	270,000,000	-	1,110,000,000
PL 150 - 81st Congress, June 30, 1949	275,000,000	250,000,000	-	1,635,000,000
PL 150 - 81st Congress, June 30, 1949	250,000,000	-	250,000,000	1,635,000,000
PL 434 - 81st Congress, October 29, 1949	-	-	100,000,000 <u>f/</u>	1,535,000,000
PL 759 - 81st Congress, September 6, 1950	365,000,000	-	240,000,000	1,660,000,000
PL 759 - 81st Congress, September 6, 1950	240,000,000	125,000,000	-	2,025,000,000
PL 843 - 81st Congress, September 27, 1950	573,232,449 <u>g/</u>	-	-	2,598,232,449
PL 911 - 81st Congress, January 6, 1951	1,834,911,000	-	-	4,433,143,449
PL 253 - 82nd Congress, November 1, 1951	590,216,500	-	-	5,023,359,949
PL 253 - 82nd Congress, November 1, 1951	200,000,000	-	200,000,000	5,023,359,949
PL 455 - 82nd Congress, July 25, 1952	203,979,000	-	70,000,000	5,157,338,949
PL 176 - 83rd Congress, July 31, 1953	-	-	30,000,000	5,127,338,949
PL 428 - 83rd Congress, June 24, 1954	-	-	27,600,000	5,099,738,949
PL 663 - 83rd Congress, August 26, 1954	379,952,000 <u>h/</u>	-	-	5,479,690,949
PL 112 - 84th Congress, June 30, 1955	321,721,000 <u>i/</u>	-	-	5,801,411,949
PL 112 - 84th Congress, June 30, 1955	27,400,000	-	27,400,000	5,801,411,949
PL 844 - 85th Congress, August 28, 1958	3,000,000	-	-	5,804,411,949
Rescinded by PL 255 - 86th Congress, September 14, 1959	-58,370,923 <u>j/</u>	-	-	5,746,041,026
PL 626 - 86th Congress, July 12, 1960	22,237,000 <u>k/</u>	-	-	5,768,278,026
PL 141 - 87th Congress, August 17, 1961	16,682,510 <u>l/</u>	-	-	5,784,960,536
PL 741 - 87th Congress, October 3, 1962	8,729,887 <u>m/</u>	-	-	5,793,690,423
PL 215 - 88th Congress, December 19, 1963	23,925,000	-	-	5,817,615,423 <u>n/</u>
PL 507 - 88th Congress, August 30, 1964	9,319,168 <u>o/</u>	-	-	5,826,934,591
PL 16 - 89th Congress, April 30, 1965	118,500	-	-	5,827,053,091
PL 128 - 89th Congress, August 16, 1965	<u>16,096,284 <u>p/</u></u>	-	-	<u>5,843,149,375</u>
Total PL 117 and 520	\$5,913,149,375	\$1,020,000,000	\$1,020,000,000	\$5,913,149,375

a/ Congressional appropriations of funds for stockpiling purposes.

SOURCE: GENERAL SERVICES ADMINISTRATION

b/ Congressional appropriations of contracting authority for stockpiling purposes in advance of appropriation of funds.

c/ Congressional authorization to liquidate outstanding obligations incurred under previously granted advance contract authority.

d/ Cumulative total of appropriated funds and advance contract authorization, less authorization to liquidate outstanding advance contract.

e/ Excludes \$8,845,792 received from sale of stockpile materials for wartime consumption. Receipts were returned to Treasury, February 1948.

f/ Cancellation of previously authorized authority to make contracts.

g/ Excludes \$25,404,921 transferred to operating expenses for rehabilitation of Government-owned material producing plants.

h/ Excludes \$48,000 transferred to Transportation and Public Utilities Service, GSA.

i/ Excludes \$430,000 transferred to Transportation and Public Utilities Service, GSA and \$199,349,000 transferred to General Fund Receipts on June 27, 1956 - PL 623 - 84th Congress.

j/ As of June 30, 1959 this amount included cash of \$52,350,792 and receivables of \$6,020,131.

k/ Excludes \$7,763,000 transferred to other GSA Funds for classified and wage board salary increases during 1961.

l/ Appropriation of \$40,000,000 of which \$22,700 transferred to Office of Administrator, GSA and \$23,294,799 transferred to General Fund Receipts.

m/ Appropriation of \$18,095,000 less transfers to General Fund Receipts of \$9,365,113.

n/ Excludes receipts from rotational sales.

o/ Appropriation of \$17,755,000 less returns to Treasury of \$8,435,832.

p/ Appropriation of \$17,400,000 less returns to Treasury of \$1,303,716.

TOTAL OBLIGATIONS AND EXPENDITURES OF STOCKPILING FUNDS

Under PL 117 and PL 520 for THE NATIONAL STOCKPILE

CUMULATIVE AND BY FISCAL PERIOD THROUGH JUNE 30, 1966

Fiscal Period	OBLIGATIONS INCURRED <u>A/</u>		EXPENDITURES <u>B/</u>	
	Net Change By Fiscal Period	Cumulative As of End of Period	By Fiscal Period	Cumulative As of End of Period
Prior to Fiscal Year 1948	\$ 123,871,685	\$ 123,871,685	\$ 66,330,731	\$ 66,330,731
Fiscal Year 1948	252,901,411	376,773,096	82,907,575	149,238,306
Fiscal Year 1949	459,766,881	836,539,977	304,486,177	453,724,483
Fiscal Year 1950	680,427,821	1,516,967,798	440,834,970	894,559,453
Fiscal Year 1951	2,075,317,099	3,592,284,897	635,537,199	1,550,096,652
Fiscal Year 1952	948,117,547	4,540,402,444	844,683,459	2,394,780,111
Fiscal Year 1953	252,375,163	4,792,777,607	906,158,850	3,300,938,961
Fiscal Year 1954	116,586,681	4,909,364,288	644,760,321	3,945,699,282
Fiscal Year 1955	321,799,833	5,231,164,121	801,310,094	4,747,009,376
Fiscal Year 1956 <u>C/</u>	251,692,667	5,482,856,788	382,011,786 <u>C/</u>	5,129,021,162 <u>C/</u>
Fiscal Year 1957	190,000,109	5,672,856,897	354,576,558	5,483,597,720
Fiscal Year 1958	54,473,250	5,727,330,147	173,753,997	5,657,351,717
Fiscal Year 1959	38,710,879	5,766,041,026	65,260,098	5,722,611,815
Fiscal Year 1960	19,859,290	5,785,900,316	49,227,142	5,771,838,957
Fiscal Year 1961	29,082,919	5,814,983,235	33,325,431	5,805,164,388
Fiscal Year 1962	31,179,407	5,846,162,642	33,695,431	5,838,859,819
Fiscal Year 1963	17,414,900	5,863,577,542	22,104,176	5,860,963,995
Fiscal Year 1964	15,489,597	5,879,067,139	16,091,067	5,877,055,062
Fiscal Year 1965 -	16,288,732	5,895,355,871	16,561,275	5,893,616,337
Fiscal Year 1966	16,296,070	5,911,651,941	16,468,100	5,910,084,437

A/ Figures are the sum of obligations incurred under PL 520, 79th Congress and PL 117, 76th Congress.
Final obligations under PL 117, 76th Congress were incurred in Fiscal Year 1949.

B/ Figures are the sum of expenditures under PL 520, 79th Congress and PL 117, 76th Congress.
Final expenditures under PL 117, 76th Congress were made in Fiscal year 1951.

C/ 1956 and subsequent fiscal periods and cumulative expenditures are reported on an accrual basis.

SOURCE: GENERAL SERVICES ADMINISTRATION

EXPENDITURES OF STOCKPILE FUNDS, BY TYPE

(for the National Stockpile)

Cumulative and for Second Half Fiscal Year 1966

Type of Expenditure	Cumulative Through December 31, 1965	Six Months Ended June 30, 1966	Cumulative Through June 30, 1966
Expenditures			
Gross Total	\$6,444,392,328	\$9,481,703	\$6,453,874,031
Less: Adjustments for Receipts from Rotation Sales and Reimbursements	543,518,823	270,771	543,789,594
Net Total	5,900,873,505	9,210,932	5,910,084,437
Material Acquisition Costs, Total	5,437,614,699	479,318	5,438,094,017
Stockpile Maintenance Costs, Total	398,879,967	6,846,164	405,726,131
Facility Construction	43,772,457	-	43,772,457
Storage and Handling Costs	252,357,146	6,846,217	259,203,363
Net Rotation Costs	102,750,364	-53	102,750,311
Administrative Costs	55,230,927	1,370,835	56,601,762
Operations, Machine Tool Program	9,147,912	514,615	9,662,527

Cumulative figures are the total of expenditures under PL 117, 76th Congress and PL 520, 79th Congress. Expenditures under PL 117 totaled \$70,000,000 of which \$55,625,237 was for materials acquisition costs and \$14,374,763 was for other costs. Final expenditures under PL 117 were made in FY 1951.

SOURCE: GENERAL SERVICES ADMINISTRATION